REMARKS

The acknowledgement, in the Office Action, of a claim for foreign priority under 35 U.S.C. § 119(a)-(d), and that the certified copy of the priority document has been received, is noted with appreciation.

The courtsey of Examiner Aguirrechea to grant applicant's attorney a telephone interview on August 6, 2003 is noted with appreciation. The instant response to the Examiner's office action dated June 27, 2003 is consistent with the proposed response submitted in support of the telephone interview.

Claims 1-13 are pending in the application; the status of the claims is as follows:

Claims 1-13 are rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,051,909 to Shinke et al ("Shinke"); and

Claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Shinke in view of U.S. Patent No. 6,512,321 B2 to Yoshida et al ("Yoshida").

It is noted that no Notice of Draftsperson's Patent Drawing Review has been received and applicants respectfully request an indication of the acceptability of the drawings from the Draftsperson.

The objection of the drawings under 37 C.F.R. § 1.83(a) as not showing every feature of the invention specified in the claims is respectfully traversed based upon the following.

The Examiner has objected to the drawings asserting that they do not contain the controller and drive controlling method for controlling the drive mechanism. With respect, Applicants believe that the features are illustrated in the Figures. Specifically, Figures 2A, 3A, and 4A show controller (7) connected to the piezoelectric element (3).

Both of these elements are part of the claimed drive mechanism invention. Additionally, Figures 2B, 3B, 4B, 6 and 8 show the drive controlling method for controlling the drive mechanism (i.e., examples of the drive controlling wave forms which are outputted from the controller (7)). As the waveform output are the clearest illustration of the drive control method of the present embodiment, Applicants believe that 37 C.F.R. § 1.83(a) is satisfied.

Accordingly, it is respectfully requested that the objection to the drawings under 37 C.F.R. § 1.83(a) as not showing every feature of the invention specified in the claims be reconsidered and withdrawn.

The rejection of claims 1-13 under 35 U.S.C. § 102(a) as being anticipated by Shinke is respectfully traversed based on the following.

Claim 1 recites in part:

> an electromechanical transducer having a pair of ends in an extending and contracting direction
>
> * * *
>
> a controller for supplying the electromechanical transducer with drive pulse, wherein the controller includes a driving circuit which generates a first set of the drive pulses for driving the driven member, and includes a frictional force reducing circuit which generates a second set of the drive pulses for reducing a frictional force exerting between the drive member and the driven member. (Emphasis Added.)

Thus, as seen above, claim 1 requires a controller that can output two different modes of pulses to the electromechanical transducer to allow the electromechanical transducer and drive mechanism to behave in two different ways.

The first mode is a driving mode to actuate the electromechanical transducer to drive (i.e., move) the driven member. The second mode is a non-driving mode where the electromechanical transducer is actuated in a way which reduces the frictional force between the drive and driven members but does not result in any substantial movement of the driven member. As described in the present specification, in reference on one preferred embodiment, beginning at page 3, line 16, when "the drive member is driven . . . at a substantially same velocity in both the directions, so that the frictional force between the driven member and the drive member can be reduced while preventing the driven member from being substantially moved." *See also*, page 5, lines 10-12.

In contrast, Shinke fails to show a controller which controls an electromechanical transducer that performs in two modes, i.e., both a driving mode (where the driven member moves) and a friction reducing mode (where the driven member does not substantially move). Instead, Shinke discloses first drive pulse generating circuit (52) which actuates a first transducer (15) to drive the drive device so as to cause a movement of the driven member. Shinke also discloses a second pulse generating circuit (53) which actuates a second transducer (35) to adjust the contact force between the driven member and the shaft. More specifically, as shown in Fig. 8, when transducer (35) elongates, the fork like members of the slider block open thereby reducing the clamping force on the shaft.

While Shinke includes a mechanism to reduce the clamping force (and presumably the friction) between the slider block and the shaft, Shinke does not disclose a drive mechanism having a controller which can output two modes of pulses which cause the common transducer to which both are applied to operate in two distinct modes. Because Shinke does not disclose a controller in accordance with the limitations of claim 1, Shinke cannot anticipate claim 1.

Claims 2-8 depend from claim 1 and thus include every limitation of claim 1. Therefore, claims 2-8 are also not anticipated by the Shinke for at least the same reasons that claim 1 is not anticipated. Claims 2-8 also include additional limitations which further distinguish these claims from Shinke.

Claim 9 recites in part:

> A drive controlling method for controlling a drive mechanism which comprises:
> an electromechanical transducer having a pair of ends in an extending and contracting direction
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> * * *
>
> the drive controlling method comprising the steps of:
> generating drive pulses; and
> supplying the electromechanical transducer with the drive pulses, wherein a mode in which the driven member is moved, a mode in which a frictional force between the driven member and the drive member is reduced, and a mode in which the driven member rests relative to the drive member are switched over by changing waveforms of the drive pulses. (Emphasis Added.)

Thus, as seen above, claim 9 requires the control of drive pulses to the transducer comprise two modes to allow the electromechanical transducer to then behave in two different ways. The first mode is when the drive pulses are formed so that the transducer behaves in a manner that allows the driven member to move. The second mode is when the drive pulses are formed so that the transducer behaves in a manner that reduces a frictional force between the driven member and the drive member. That is, the driven member does not move. The controlling method achieves these two modes through a transducer by changing the waveform of the drive pulses.

In contrast, as discussed above, Shinke fails to show a controller or a controlling method that operates in two different modes to achieve two different modes of behavior.

Instead, Shinke discloses a single mode of control over the transducer which actuates the drive member and which results in only a single mode of behavior by the driven member. The Shinke controlling method does not disclose, suggest or teach changing the drive pulse mode to achieve two modes of behavior by the driven member.

Because Shinke does not disclose every element of claim 9, Shinke cannot anticipate claim 9.

Claims 10-13 depend from claim 9 and thus include every limitation of claim 9. Therefore, claims 10-13 are also not anticipated by the cited reference for at least the same reasons that claim 9 is not anticipated. Claims 10-13 also add further limitations which additionally distinguish these claims, in particular controlling the waveform characteristics to affect the degree of frictional reduction. Because Shinke utterly fails to disclose reducing the friction through driving the driven member, Shinke of course cannot suggest the specific techniques of claims 10-13 of changing the degree or nature of the friction reduction through driving the driven member.

Accordingly, it is respectfully requested that the rejection of claims 1-13 under 35 U.S.C. § 102(b) as being anticipated by Shinke, be reconsidered and withdrawn.

The rejection of claims 4 and 5 under 35 U.S.C. § 103(a), as being unpatentable over Shinke in view of Yoshida, is respectfully traversed based on the following.

Claims 4 and 5 depend from claim 1. To establish a *prima facie* case of obviousness, the cited references must disclose or suggest all of the limitations of the rejected claim. As noted above, Shinke does not teach or suggest all the limitations of Claim 1 because Shinke does not disclose or suggest a controller that performs both the driving action and the friction reducing action by supplying two modes of drive pulses. Yoshida also fails to disclose or suggest a controller which operates in two modes. While

Yoshida discloses use of a variable duty cycle square wave to control the direction of movement. Yoshida does not disclose a first mode for driving the driven member and a second mode for reducing a frictional force.

Accordingly, as neither Shinke nor Yoshida, singly or in combination, discloses or suggests every limitation of claim 1, claim 1 cannot be rendered obvious by these references. Because claims 4 and 5 depend from claim 1, claims 4 and 5 are also not obvious for at least the same reasons.

Accordingly, it is respectfully requested that the rejection of claims 4 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Shinke in view of Yoshida, be reconsidered and withdrawn.

The present amendment adds new claims 14 – 19 in order to provide a more adequate basis of protection for the current invention. Each of independent claims 14 and 17 recites the feature that the drive member is driven in two modes of operation.

CONCLUSION

In view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and allowance are respectfully requested.

This Amendment increases the number of independent claims by 2 from 2 to 4 and increases the total number of claims by 6 from 13 to 19, but does not present any multiple dependency claims. Accordingly, a Response Transmittal and Fee Authorization form authorizing the amount of $86.00 to be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260 is enclosed herewith in duplicate. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's

Deposit Account No. 18-1260. If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed. Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

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